

REMARKS

This Amendment serves as a submission accompanying a Request for Continued Examination (RCE) being filed herewith.

Claims 13 and 25 were amended above. Claims 14 and 15 were canceled. Claims 27 to 35 were added. No new matter has been added.

Claims 13 and 16 to 35, are now pending in the present application. Applicants respectfully request reconsideration of the present application in view of this response.

In an earlier Office Action, claims 13 to 15, 17, 18, 20, and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,311,346 to Haas, et al. (“Haas reference”) in view of the U.S. Patent No. 6,404,520 to Robinson et al. (“Robinson reference”) or U.S. Patent No. 5,371,597 to Favin et al. (“Favin reference”) or U.S. Patent No. 6,130,766 to Cao (“Cao reference”).

The Haas reference concerns reducing the polarization-dependent distortion of an optical signal transmitted through an optical fiber by aligning the polarization of the optical signal to minimize the received signal distortion. The reference further recites that a polarization controller, located at the input or output end of a long haul optical fiber system, is used to align the polarization of the signal to minimize the received signal distortion.

The Robinson reference concerns a method and apparatus for performing fault management in an optical communications system including a PMD compensator, and using a controller receiving notifications indicative of PMD in the system, as well as at least one indicator from a system device providing an indication of an attribute of the communication system. The method refers to providing fault management by correlating the PMD notifications and system indicators to distinguish between fiber failure, PMD-related degradations, and failure of monitoring equipment itself.

The Haas and Robinson references do not teach or suggest all of the features of the present claims. Specifically, claim 13 of the present invention concerns a method for reducing distortion of an optical pulse contained in a communication-transmitting luminous flux in an optical communication system caused by polarization mode dispersion in which not only is the polarization adjusted, but also the polarization of the optical pulse is reset in predefined time intervals for optimizing communication. Further, claim 13 requires using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system. Neither the Haas and Robinson

references appear to teach or disclose the combination of these features in either their drawings or claims. In contrast, for example, the Robinson reference recites focusing and correlating its PMD notifications and system indicators to distinguish between fiber failure, degradations and monitoring equipment failures.

The Cao reference describes a PMD compensator for compensating for PMC in an optical signal by an automatic tracking of a principal state of polarization. The Cao reference refers to a feedback control signal, and a compensation control arrangement responsive to the optical signal and the polarized components, but does not appear to teach or describe using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system, in combination with a system in which reducing distortion of an optical pulse contained in the communication-transmitting luminous flux in an optical communication system caused by polarization mode dispersion in which not only is the polarization adjusted, but also the polarization of the optical pulse is reset in predefined time intervals for optimizing communication, as required by claim 13.

The Favin reference does not cure the deficiencies of the Haas reference. Specifically, the Favin reference purportedly describes a polarization dependent loss (PDL) of an optical component which is computed in a deterministic method that requires “only four measurements” each having a unique input state of polarization. The Favin reference discusses computing a PDL in a “deterministic method that requires only four measurements” and does not appear to teach or describe the combined requirements of using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system, and reducing distortion of an optical pulse contained in a communication-transmitting luminous flux in an optical communication system caused by polarization mode dispersion in which not only is the polarization adjusted, but also the polarization of the optical pulse is reset in predefined time intervals for optimizing communication, as required by claim 13.

Accordingly, Applicants respectfully submit that the Haas and Robinson or Favin or Cao references, alone and in combination, do not teach or suggest all of the features of claim 13. Claims 14 and 15 were canceled, and thus, any rejection of those claims is now moot. Claim 25 depends from claim 13 and is allowable for at least the same reasons as claim 13. Claim 17 and, thus, its dependent claims 18 and 20, recite features analogous to claim 13, and are allowable for essentially the same reasons as claim 13.

Accordingly, Applicants respectfully submit that claims 13, 17, 18, 20, and 25, are allowable over the cited references. Withdrawal of the rejection under 35 U.S.C. § 103(a) of claims 13, 17, 18, 20 and 25 is respectfully requested.

In an earlier Office Action, claims 16, 19, 21 to 24, and 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Haas reference in view of the Robinson reference or the Favin reference or the Cao reference and further in view of the Wiech 1998 article concerning polarization extinction.

Claims 16, 19, 21 to 24 and 26, depend from one of claims 13 and 17, and are believed allowable over the Haas reference in combination with each of the Robinson reference, the Favin reference, and the Cao reference as described above. The Wiech 1998 article does not cure the deficiencies of any of those references. Specifically, the Wiech 1998 article appears to concern an optical signal to noise ratio measurement in WDM networks using polarization extinction. At the Patent Office's marked section, the Wiech reference discusses that a state of polarization of the incoming WDM signal is changed by means of the polarization controller until the optical spectrum analyzer or the power meter indicates minimum power in the channel under investigation. Then, in that case, the polarization controller is set to the orthogonal state. The displayed power is maximum and corresponds, in the case of sufficiently high OSNR, to the signal power. Using these values, the ONSR is calculated. In contrast, claim 13 involves using a small, coupled-out portion of the communication-transmitting luminous flux – not the measurement of displayed power at maximum and minimum states in the channel as in the Wiech reference -- to determine the transmission quality of the optical communication system, and reducing distortion of an optical pulse contained in the communication-transmitting luminous flux in an optical communication system caused by polarization mode dispersion in which not only is the polarization adjusted, but also the polarization of the optical pulse is reset in predefined time intervals for optimizing communication. Accordingly, when taken in combination with the Haas reference and one of the Robinson, Cao, and Favin references, the Wiech reference still do not teach or disclose all of the features of the claims.

Applicants respectfully submit that claim 13, and thus, its dependent claim 16, are allowable over the cited references. Claims 19, 21 to 24, and 26, depend from claim 17 which recites features analogous to those described above of claim 13, and are allowable for essentially the same reasons. Withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested.

New claims 27 to 35 recite features analogous to those in claim 13, and are believed allowable for at least the reasons described above. No new matter has been added. Support for the claims can be found in the Specification.

CONCLUSION

In view of all of the above, it is believed that any rejections under 35 U.S.C. §103(a) of claims 13 and 16 to 26 should be withdrawn, and that all currently pending claims 13 and 16 to 35, are allowable.

It is therefore respectfully requested that any rejections be reconsidered and withdrawn, and that the present application issue as early as possible.

Respectfully submitted,

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